



CENTRAL ALBERTA REGIONAL CONSORTIUM

REGIONAL MATHEMATICS PLAN

2010 - 2011

Submitted

Brenda McDonald and Margo Nygard
Mathematics Consultants
math@carcpd.ab.ca

Donna McRae
Executive Director
dmcrae@carcpd.ab.ca

Central Alberta Regional Consortium
(Office) 403-348-8194 • (Cell) 403-598-7474
4210 59 Street • Red Deer, Alberta • T4N 2M9

Central Alberta Regional Consortium Math Grant



Central Alberta Regional Consortium

Working Together: Making a Difference



Alberta Education has provided a grant to the Central Alberta Regional Consortium (CARC) to provide implementation support for the new Mathematics Program of Studies for the 2008 – 2011 school years. As part of the grant deliverables, specific roles and responsibilities have been identified for the continued operation of a regional mathematics advisory committee and the hiring of part-time mathematics project consultants.

The goal of teacher professional development is to impact student learning. The Central Alberta Regional Consortium is a partner in the process, working alongside Alberta Education, school jurisdictions, other stakeholder groups, school based administrators and classroom teachers. The regional consortium collaborates and consults with their districts to develop a regional plan to support regional and district implementation based on the Alberta Education developed math program of studies. The school jurisdictions develop a district plan to meet the needs of their unique context, allocating resources and responsibilities to support implementation while schools in turn work through the same process, with teacher drawing upon the available learning opportunities available to them. The goal of all parties is successful implementation of the curriculum to positively impact and increase student learning and achievement.

The CARC Mathematics Implementation Project Plan, in conjunction with Zone 4 and ARPDC, provides a framework for providing quality professional development opportunities for teachers and leaders in the interest of improved student learning. Data collected for the implementation project is focused on the specific processes surrounding the provision of the professional development experiences. Data collection relative to student performance remains the responsibility of school jurisdictions in conjunction with policies and procedures set out by Alberta Education. As a team player, CARC remains interested in data on student performance shared by school jurisdictions and is responsive to input from jurisdiction leaders as to how CARC might support teacher professional development in the region in the interest of improved student learning.

Required Elements to Meet Grant Deliverables

A. Regional Mathematics Advisory Committee

An advisory committee has been formed to provide advice and direction as to how the grant can best meet regional needs for the Mathematics Curriculum Implementation Project for CARC. The purpose of the Advisory Committee is to oversee planning of the math project, promote CARC in their divisions, and help monitor the project plan and goals. The Advisory Committee currently consists of 12 members who represent a wide variety of stakeholders within the region including teachers, administrators, curriculum coordinators, and curriculum directors. Members represent the following:

- Battle River School Division
- Chinook's Edge School Division
- Clearview Public Schools
- Red Deer Catholic Regional Schools
- Red Deer Public Schools
- McATA Specialist Council
- Prairie Association of Christian Schools
- Wetaskiwin Regional Public Schools
- Wild Rose Public Schools
- Wolf Creek Public Schools
- Central Alberta Regional Consortium



B. Mathematics Curriculum Consultants

Two Mathematics Curriculum Consultants and a Mathematics Facilitator have been seconded. CARC added the position of a full time Mathematics Facilitator to be available for district and school requests. Each math consultant will provide a minimum of 40 days to the consortia for math project implementation while the Math Facilitator will provide full time services from August 2010 to June 2011.

Responsibilities of the Math Consultants are to:

- Act as mathematics contacts for Central Alberta Regional Consortium
- Liaise with Alberta Education Mathematics Team and Zone Project Coordinators
- Coordinate all CARC services related to mathematics support for the implementation plan
- Consult with Zone 4 members regarding planning and implementation to ensure that all districts have input into the planning process and approval of the zone plan
- Carry out project management, leadership, and planning through implementation of plan directives, district consultations and management of project evaluation

Responsibilities of the Mathematics Facilitator is to:

- Deliver the Elementary Alberta Education Modules for districts and schools
- Develop grade specific workshops – Grade 10C & 10-3 – available to zone, districts and schools
- Present Planning for Math Using the LearnAlberta Website – Zone – full days and after school sessions for schools and districts
- Develop New Math Cohorts: Math and Technology
- Create materials to post on the CARC website in Math e.g.) products from cohort work
- Travel in Zone 4 to attend to the needs of schools, districts and the zone.

C. Regional Comprehensive Mathematics Curriculum Implementation Project

Improved Student Learning

The ultimate reason for the CARC Mathematics Project is to work with teachers and district staff to help improve student learning and confidence in the area of mathematics through the new program of studies. The main goals of mathematics education are to prepare students [and teachers] to:

- Use mathematics confidently to solve problems
- Communicate and reason mathematically
- Appreciate and value mathematics
- Make connections between mathematics and its applications
- Commit themselves to lifelong learning
- Become mathematically literate adults, using mathematics to contribute to society.

Students [and teachers] who have met these goals will:

- Gain understanding and appreciation of the contributions of mathematics as a science, philosophy and art
- Exhibit a positive attitude toward mathematics
- Engage and persevere in mathematical tasks and projects
- Contribute to mathematical discussions
- Take risks in performing mathematical tasks
- Exhibit curiosity (Alberta Education, 2007, p. 2-3)

Orientation Sessions for Administrators and Counsellors

Sessions will be held for school and/or central office administrators and counsellors to orient them to the new high school math curriculum and help create a picture of what a mathematics classroom might look like once the new program of studies is implemented. Administrators must see their active participation as integral to the successful implementation of this program.

Districts and schools requesting guidance in classroom walkthroughs & coaching in math implementation will also have requests honoured.

Alberta Education Training Sessions for French Immersion Teachers

Sessions will be held for French Immersion teachers to orient them and provide them insight into the new curriculum in conjunction with CPFPP. Through these sessions, teachers will explore what a classroom might look like once the new Program of Studies is implemented and will be actively involved in activities that can be used to engage students and help them achieve the concepts within their outcomes.

These sessions are promoted through regular advertising as well as the CARC French Language Advisory Committee.

Infusion of Mathematical Processes, Natures of Mathematics, Information and Communications Technology [ICT], and First Nations, Metis, Inuit [FNMI] Perspectives throughout the Strands

CARC recognizes that explicit infusion of mathematical processes, natures of math, ICT and FNMI are important foundations to the new program. Teachers and administrators must be sensitive to these and need to be provided with information designed to assist them in their understanding and use.

Project Evaluation

Data from the Year One, Two & Three Reports will inform Year Four of the project so we may continue, refine, delete or replace elements of the plan to ensure continued successful implementation. This evaluation will assess if the project plan has met its goals and participants' needs, as well as show how the implementation of varied approaches within the plan has affected teachers' repertoire of effective skills and strategies, resulting in evidence of improved student learning.

Continued Conversations with Stakeholders

CARC and Math Consultants will strive to maintain ongoing, effective communication with our Zone Advisory Board, ARPDC Math Consultants, Alberta Education, ATA Math Specialist Council, and teachers and district staff within Zone 4.

Goals and Strategies for 2010 – 2011

The guiding principles behind CARC's Math Plan are to:

- Provide on-site professional development to meet the needs of individual school board cultures and clientele
- Build leadership capacity within Zone 4 in regards to mathematics
- Provide specific opportunities to teachers and administrators who will be responsible for implementing the math curriculum
- Provide sessions available to all teachers of mathematics from Kindergarten to Grade 12
- Focus sessions specific to grades being mandatorily implemented in 2010 & 2011
- Work collaboratively between, grades, schools, and boards
- Emphasize math pedagogy – specifically, instructional methods to promote adult learning which mirror methods to be used with students
- Attention will be placed on the mathematical processes by building on teachers' current mathematical knowledge, skills, and attitudes
- Infuse FNMI and ICT outcomes into the mathematical program
- Focus on Assessment FOR, AS and OF Learning in the mathematics classroom
- Provide opportunities and time for teachers to network
- Provide alternative approaches to traditional professional development through anytime, anywhere synchronous and asynchronous learning opportunities

Summary of CARC Goals

CARC will host zone learning opportunities to explore the conceptual framework of the new mathematics curriculum with an emphasis on student learning, acquisition and understanding of mathematics. Wherever possible, these sessions will be offered as a series of learning opportunities and will equip teachers with deep conceptual understanding and build leadership within the districts in relation to mathematics. These workshops will focus on the following:

- front matter of the curriculum,
- processes,
- hands-on manipulatives,
- interactive learning,
- technology integration,
- assessment, and
- research that supports the change in the delivery of the new program of studies.

The zone will support building of leadership capacity and collaboration by:

- training teacher leaders,
- providing resources,
- offering specifically targeted sessions, and
- communicating opportunities for further professional learning.

Examples of themes for learning opportunities:

- Orientation and understanding of the new program of studies - target audience – mandatory implementation grades as well as early adopters
- Assessment for Learning in Mathematics
- Differentiated Instruction in Mathematics
- Inquiry based Learning
- Building common assessments – Framework
- On-line Guide to Implementation
- Literature and Mathematics
- Use of Technology in Mathematics classrooms
- Administrator sessions
- Targeted Outcome Sessions
- Personal Strategies sessions
- Number Sense sessions
- Use of manipulatives

Alberta Education Developed Sessions

As part of this project, CARC will continue to offer elementary sessions: Patterns & Pre-Algebra, Measurement, Number, Personal Strategies, Problem Solving and Shape & Space to Division I to III audiences. Audience one will be any teacher, zone or district, who would like to attend the sessions to learn more about the new program and ideas to present concepts in their classroom. The second audience will focus on district chosen representatives to train as teacher leaders in these areas with the intention of using these individuals as math leaders in their school districts.

District Delivered Learning Opportunities

CARC will continue to support district delivered learning opportunities. We will meet with facilitators and curriculum coordinators to discuss each Districts implementation plan for mathematics.

Funding to jurisdictions: CARC Mathematics Project will provide:

- Maximum of \$10 000.00 per jurisdiction for lead teacher access.
 - Support is based on approximately \$1000 per day. This may be used to cover facilitator fees (maximum of \$650) and travel and subsistence. Any cost exceeding \$1000 per day is to be covered by the district. The cost of using the CARC Math Facilitator is free to the districts.

Through the math consultants, districts will be required to:

- advertise CARC funded PD sessions on the CARC website and invite participants from other divisions to attend.
- have participants complete the CARC session evaluation
- report to CARC on dates/sessions/number of attendees and submit evaluation forms.
- Ensure there is a minimum of 6 participants at each session.



Further professional development suggestions from Math Advisory Committee and Zone 4 Curriculum Coordinators to consider:

- High School Awareness, Preparation and Collaborative Cohort Sessions
- Mathematics and Literacy
- Differentiated Instruction
- Technology in the Math Classroom
- English Language Learner Math Strategies
- Anytime, Anywhere Opportunities
- Tools for Administrators
- Information for Parents

***It is the commitment and dedication of all stakeholders
- Advisory Committee, Curriculum Coordinators, Senior Staff, School Administrators,
Classroom Teachers, and CARC –
that will make Math implementation successful throughout Zone 4.***



Central Alberta Regional Consortium

Working Together: Making a Difference



MATH IMPLEMENTATION 2010 - 2011

Revenue		2009-2010 Budget	2009-2010 Actual	2010-2011 Proposed
Carry Over 2009-2010		120,375	120,368	34,708
Implementation (Admin)		41,000	41,000	41,000
Implementation (Math)		190,000	190,000	190,000
Registration Fees			11,422	11,000
Total Revenue		351,375	362,789	276,708

Expenditure				
Administration/Operation	400	25,000	43,100	25,000
Advisory Committee Meetings	615	4,000	3,214	3,500
Capital Expenses	750	2,000		2,000
Coordinator Expenses	620	13,000	17,240	15,000
Coordinator & Facilitator Salaries	411	148,000	192,674	185,000
Provincial Math Institute Days		20,000	15,000	7,000
Technology				15,000
		212,000	271,227	252,500

Zone/District Days				
Facility/Food/Session Supplies	610	14,000	14,404	5,708
Presenter/Attendee - Travel/Subsistence	460	15,000	7,647	8,000
Presenter/Facilitator - Honorarium	590/411	23,000	14,999	5,000
		52,000	37,275	18,708

Cohort Days				
Facility/Food/Session Supplies	610	14,000	1,000	2,000
Presenter/Attendee - Travel/Subsistence	460	10,000	3,619	2,500
Presenter/Facilitator - Honorarium	590	6,000		1,000
Sub Teachers	230	57,375	15,183	0
		87,375	19,802	5,500
Total Expenses		351,375	328,304	276,708
Balance Remaining		0	34,485	0